WHAT IS CLAIMED IS:

1. A DC motor comprising:

a rotor unit which is rotatably arranged within the motor and has a cylindrical field magnet fixed to holder means into which a rotating shaft is press-fitted at a center thereof, said cylindrical field magnet being magnetized such that S and N poles alternate with each other in a circuferential direction thereof; and

a stator unit which is circumferentially arrenged around said rotor unit and is comprised of a plurality of stator yokes so arranged as to oppose said field magnet with a small gap, each of said stator yokes being formed by circumferentially stacking a large number of thin plates each of which constitutes a salient pole, and a plurality of coil units, each being formed by winding a magnet wire on a bobbin and mounted on each of said stator yokes;

wherein each of the S and N poles has a plurality of stages formed in an axial direction and shifted from each other in the circumferential direction of said field magnet with a predetermined shift amount.

2. A DC motor according to claim 1, wherein the shift amount of respective stages falls within a range of 12° to 50° in an electrical angle.

3. A DC motor according to claim 1, wherein a rotor

position detection element is adjusted by 1/2 the shift amount of respective stages.

4. A DC motor according to claim 1, wherein the motor is an inner rotor type brushless DC motor.

5. A DC motor according to claim 1, wherein the DC motor is an outer rotor type brushless DC motor.

6. A DC motor according to claim 4, wherein the DC motor has three phases, eight poles and six stator units in which basic degree of a cogging torque thereof is 24.

7. A DC motor according to claim 5, wherein the DC motor has three phases, eight poles and six stator units in which basic degree of a cogging torque thereof is 24.